

**CLAIMS:**

1. A boost converter having a capacitive mode and an inductive mode of operation, and a selection terminal (Vin) for selecting the capacitive or inductive mode.
2. The boost converter of claim 1, wherein the selection terminal is coupled to a voltage source (108) in the capacitive mode and wherein the selection terminal is coupled to ground (Gnd) in the inductive mode.
3. The boost converter of claim 1 or 2, further comprising switching means (102, S1, S2, S3, S4) for performing a switching sequence, the switching sequence comprising an idle phase, an energy storage phase and an energy transfer phase.
4. The boost converter of claim 3, the switching means having a set of switches (S1, S2, S3, S4) for the capacitive mode and a sub-set (S2, S4) of the set of switches for the inductive mode.
5. The boost converter of claim 3 or 4, the switching means comprising counter means for receiving a clock signal.
6. The boost converter of any one of the preceding claims, further comprising a first comparator (104) being coupled to the selection terminal for determining a selection of the capacitive or inductive mode.
7. The boost converter of any one of the preceding claims, further comprising a second comparator (106) for comparing a voltage drop over an external resistive element (Rled) and a voltage reference (Vref) in order to trigger a transition from an idle phase to an energy storage phase.
8. A power supply comprising:
  - means for receiving a battery (108),

- a boost converter (100) having a capacitive mode and an inductive mode, and at least first (Vin) and second (Swn) terminals,
    - wherein the battery is coupled to the first terminal for selection of the capacitive mode and the battery is coupled to the second terminal for selection of the inductive mode.
- 5
9. A method of DC/DC conversion, the method comprising the steps of:
- selecting of a capacitive or an inductive mode in order to determine a switching sequence,
- 10 - performing the switching sequence to provide an idle phase, an energy storage phase and an energy transfer phase,
  - wherein a set of switches (S1, S2, S3, S4) is operated in the capacitive mode and a sub-set (S2, S4) of the set of switches is operated in the inductive mode.
- 15 10. The method of claim 9, whereby the capacitive or inductive mode is selected by coupling of a selection terminal (Vin) to a one of first and second predefined voltages.
11. The method of claim 10, wherein the first predefined voltage is a voltage provided by a voltage source (108) in the capacitive mode and wherein the second predefined voltage is ground potential in the inductive mode.
- 20